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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference P1596	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/FI 03/00479	International filing date (day/month/year) 16.06.2003	Priority date (day/month/year) 24.06.2002
International Patent Classification (IPC) or both national classification and IPC F27B7/34		
Applicant ANDRITZ OY et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
 - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 20.01.2004	Date of completion of this report 10.08.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Noske, W Telephone No. +49 89 2399-8448



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/FI 03/00479**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-6 as published

Claims, Numbers

1-12 as published

Drawings, Sheets

1/2, 2/2 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2, 5, 7-12
	No: Claims	1, 3, 4, 6
Inventive step (IS)	Yes: Claims	
	No: Claims	1-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/FI 03/00479

1. D1 DE-A-35 30 683, claims 1, 2, Fig., col. 3, l. 53-56, col. 4, l. 22-54, col. 6, l. 56-58,

discloses a burner operating in a rotary furnace, the burner having an inner tube 1 for supplying fuel surrounded by an annular sheath 2 for supplying primary burning gas having an oxygen content lower than air, e.g. offgas from burning fuel in a separate burning aggregate, having an oxygen content of 2-15 vol.-% and a temperature of 80-350°C. The emission of NO_x is thus reduced.

An outer cooling channel for cooling air is mentioned in D1, col. 6, l. 56-58.

D2 CH-A-528 702, Fig.,

discloses a burner 26 operating in a boiler 1 for producing steam. Fuel is supplied to the burner 26 via an inner conduit 27 while air and offgas from a gas turbine 10 are supplied to the burner 26 by means of a box 32 surrounding the inner conduit 27.

2. The subject-matter of claim 1 departs from D1 (which does not specify any temperature, pressure or oxygen content of the used flue gas) only in that flue gas "generated in a gas turbine" is used. Since a flue gas which is "generated in a gas turbine" does not necessarily differ from the flue gas "generated in a burner" as disclosed in D1 novelty with respect to D1 is questionable and is not acknowledged.

Even if flue gas "generated in a gas turbine" would differ from that generated in a burner it can be seen from D1 that use of flue gas (of whatever origine) having a lower oxygen content than air as a burning gas in a burner reduces emission of No_x. Doing this for this aim would thus appear obvious and lead to the same result whichever flue gas is used. The subject-matter of claim thus also lacks an inventive step.

3. The same objections apply to dependent claims 3, 4 which do not add any feature which departs from D1.

4. D2 takes away novelty from the subject-matter of apparatus claim 6 since the phrase "for generating a flame in a combustion zone of a **rotary kiln**" is not distinguishing from D2, cf. Examination Guidelines C III 4.8, and the phrase "at least a burner tube extending **into the kiln from outside the kiln**" is understood as the burner tube being suitable for such extension.

Claim 6 is also objectionable from lack of inventive step from D1 since the same result is obtained whether the burner receives the burning gas from the flue gas of a gas turbine or of a burner.

5. The inventive step objection also applies to dependent claims 2, 5 and 7-12 which only add optional features.